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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------|------------------|
| 10/628,579   | 07/29/2003  | Mark C. Carroll      | 22129-00007-US1       | 4098             |
| 30678  | 7590        | 04/01/2005           | EXAMINER              |                  |
| CONNOLLY BOVE LODGE & HUTZ LLP<br>SUITE 800<br>1990 M STREET NW<br>WASHINGTON, DC 20036-3425 |             |                      | MORILLO, JANELL COMBS |                  |
|  |             |                      | ART UNIT              | PAPER NUMBER     |
|  |             |                      | 1742                  |                  |

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/628,579             | CARROLL ET AL.      |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Janelle Combs-Morillo  | 1742                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) Responsive to communication(s) filed on 29 July 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) Claim(s) 1-39 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-39 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 12/22/03 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/22/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. Several references listed in the IDS filed December 22, 2003 were crossed out by the examiner, because said references were not available as prior art.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6-8, 10-23, 25-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Haszler (US 6,342,113).

Haszler teaches Al-Mg alloy comprising (in wt%): 5-6% Mg, 0.6-1.2% Mn, 0.4-1.5% Zn, 0.05-0.25% Zr, max. 0.3% Cr, max. 0.4% Cu, max. 0.4% Ag (column 2 lines 64-66, column 3 lines 1-9). Haszler teaches an example with: 4.7% Mg, 0.8% Mn, 0.4% Zn, <0.01% Cr, 0.1% Cu, balance aluminum (see ex. A9 in Table 1), which falls within the presently claimed alloying ranges (cl. 1, 3, 4, 6, 7, 10-14, 17, 19, 20).

Concerning claims 1, 2, 7, 8, 17, 18, 33-39, which mention a tau phase or a sensitization treatment (and/or properties related to said phase or treatment), Haszler mentions said Al-Mg alloy is exposed to temperature of 100°C (column 10 lines 50-58), which simulates the actual service temperature, which falls within the presently claimed heat treatment temperature. Because Haszler teaches an identical alloy processed substantially as presently claimed, then

Art Unit: 1742

substantially the same phases, such as the tau phase; and properties, such as mass loss or elongation, are expected to be inherently present. “[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). See MPEP § 2112.

Concerning claims 15-16, 21-23, 25-32, Haszler teaches said alloy is particularly suitable for large welded structures such as storage containers, vessels for marine and land transportation, tanks, etc. (column 1 lines 13-17).

4. Claims 1-4, 6-8, 10-14, 17-20, 33-39 are rejected under 35 U.S.C. 102(a) or 102(b) as being anticipated by “Effects of minor Cu additions on a Zn-modified Al-5083 alloy” (hereinafter Carroll). Said claims are listed as alternatively rejected under 102(a) or 102(b) because it is unclear if the reference was published more than a year prior to the effective filing date of the instant invention.

Carroll teaches an aluminum alloy example within the presently claimed alloying ranges (wt%): 4.1% Mg, 0.49% Mn, 0.58% Zn, 0.073% Cu, balance aluminum (see Table 1 p 426), wherein said alloy is subject to a sensitization treatment at 165°C (p 426 top of page), thereby obtaining the quaternary  $\tau$ -phase (p 427), substantially as claims in instant claims 1-4, 6-8, 10-14, and 17-20.

Concerning claims 17 and 33-39, which mention various properties related to said  $\tau$ -phase or the sensitization treatment, because the temperature mentioned by Carroll falls within the presently claimed temperature range, then substantially the same effects, such as simulation of actual conditions of use, is held to be inherently present. Because Carroll teaches an identical alloy processed substantially as presently claimed, then substantially the same phases, such as the tau phase; and properties, such as mass loss or elongation, are expected to be inherently present.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haszler (US 6,342,113).

Haszler is discussed in paragraphs above.

Haszler teaches Al-Mg alloy comprising (in wt%): 5-6% Mg, 0.6-1.2% Mn, 0.4-1.5% Zn, 0.05-0.25% Zr, max. 0.3% Cr, max. 0.4% Cu, max. 0.4% Ag (column 2 lines 64-66, column 3 lines 1-9), which overlaps or touches the boundary of the presently claimed alloying ranges (cl. 1, 3, 4-7, 9-14, 17, 19, 20). Because Haszler teaches overlapping alloying ranges, it is held that Haszler has created a *prima facie* case of obviousness of the presently claimed invention.

Art Unit: 1742

Overlapping ranges have been held to be a *prima facie* case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Concerning claims 1, 2, 7, 8, 17, 18, 33-39, which mention a tau phase or a sensitization treatment (and/or properties related to said phase or treatment), Haszler mentions said Al-Mg alloy is exposed to temperature of 100°C (column 10 lines 50-58), which simulates the actual service temperature, which falls within the presently claimed heat treatment temperature.

The examiner asserts that “products of identical chemical composition can not have mutually exclusive properties.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). A chemical composition and its properties are inseparable. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims (tau phase, mass loss, elongation) are necessarily present. See MPEP 2112.01.

Concerning claims 15-16, 21-32, Haszler teaches said alloy is particularly suitable for large welded structures such as storage containers, vessels for marine and land transportation, tanks, etc. (column 1 lines 13-17).

Art Unit: 1742

7. Claims 5, 9, 15-16, and 21-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Effects of minor Cu additions on a Zn-modified Al-5083 alloy" (hereinafter Carroll) in view of Haszler.

Concerning claims 15-16, 21-32, Carroll does not mention said alloy is in the form of a marine product, etc. However, Haszler teaches substantially similar 5xxx series aluminum alloys are particularly suitable for large welded structures such as storage containers, vessels for marine and land transportation, tanks, etc. due to their excellent weldability and corrosion resistance (column 1 lines 13-17, column 2 lines 55-57). It would have been obvious to one of ordinary skill in the art to form the 5xxx series alloy taught by Carroll into a large welded structure, such as a marine vehicle, because Haszler teaches substantially similar 5xxx series aluminum alloys are particularly suitable for large welded structures such as storage containers, vessels for marine and land transportation, tanks, etc. due to their excellent weldability and corrosion resistance (column 1 lines 13-17, column 2 lines 55-57).

Concerning claims 5 and 9, which mention Ag is added to said Al-Mg alloy, Haszler teaches that 0.05-0.4% Ag may be added to improve stress corrosion resistance (column 4 lines 56-58). It would have been obvious to one of ordinary skill in the art to add 0.05-0.4% Ag, as taught by Haszler, to the 5xxx series aluminum alloy taught by Carroll because Haszler teaches that 0.05-0.4% Ag may be added to improve stress corrosion resistance (column 4 lines 56-58).

Art Unit: 1742

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCM  
March 31, 2005

*George Wyszomierski*  
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